

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend claims as follows:

1-16 (Cancelled)

17. (Currently Amended) An image processing apparatus, comprising:

a segmenting unit to segment an image into one or more regions of data from the image;

a generating unit to make the one or more regions segmented by the segmenting unit into components;

an encoding unit to encode the components made by the generating unit into code data using different compression methods; and

a combining unit to combine the code data encoded by the encoding unit into a codestream.

18. (Previously Presented) The image processing apparatus as claimed in claim 17, wherein the encoding unit divides the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

19. (Previously Presented) The image processing apparatus as claimed in claim 17, wherein the segmenting unit segments the image into at least one of a text region, a drawing region, a photograph region, and a background region.

20. (Previously Presented) The image processing apparatus as claimed in claim 17, further comprising:

a storing unit to store the codestream combined by the combining unit;  
a decoding unit to decode the codestream stored in the storing unit into an image; and  
an image forming unit to form the image decoded by the decoding unit.

21. (Currently Amended) An image processing apparatus, comprising:  
a segmenting unit to segment an image into one or more regions of data from the image;  
a generating unit to make the one or more regions segmented by the segmenting unit into components;

a converting unit to convert the respective components from a first data format to a second data format, where the first and second data formats are different ~~into different data formats~~;

an encoding unit to encode the components converted by the converting unit into code data using a same compression method; and

a combining unit to combine the code data encoded by the encoded unit into a codestream.

22. (Previously Presented) The image processing apparatus as claimed in claim 21, wherein the encoding unit divides the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

23. (Previously Presented) The image processing apparatus as claimed in claim 21, wherein the segmenting unit segments the image into a least one of a text region, a drawing region, a photograph region, and a background region.

24. (Previously Presented) The image processing apparatus as claimed in claim 21, further comprising:

a storing unit to store the codestream combined by the combining unit;  
a decoding unit to decode the codestream stored in the storing unit into an image; and  
an image forming unit to form the image decoded by the decoding unit.

25. (Currently Amended) An image processing method comprising:  
segmenting an image into one or more regions of data from the image;  
generating the one or more segmented regions into components;  
encoding the components into code data using different compression methods; and  
combining the code data into a codestream.

26. (Previously Presented) The image processing method as claimed in claim 25, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encoding the respective tiles into code data.

27. (Previously Presented) The image processing method as claimed in claim 25, wherein segmenting an image into one or more regions comprises segmenting the image into at least one of a text region, a drawing region, a photograph region, and a background region.

28. (Previously Presented) The image processing method as claimed in claim 25, further comprising:

storing the codestream;  
decoding the stored codestream into an image; and  
forming the image generated as a results of decoding the stored codestream.

29. (Currently Amended) An image processing method comprising:  
segmenting an image into one or more regions of data from the image;  
generating the one or more regions into components;  
converting the respective components from a first data format to a second data format,  
where the first and second data formats are different ~~into different data formats~~;  
encoding the components into code data using a same compression method; and  
combining the code data into a codestream.

30. (Previously Presented) The image processing apparatus as claimed in claim 29, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

31. (Previously Presented) The image processing method as claimed in claim 29, wherein segmenting an image into one or more regions comprises segmenting the image into a least one of a text region, a drawing region, a photograph region, and a background region.

32. (Previously Presented) The image processing method as claimed in claim 29, further comprising:

storing the codestream;  
decoding the stored codestream into an image; and  
forming the image that results from decoding the stored codestream.

33. (Currently Amended) ~~An article of manufacture having one or more recordable medium~~ computer-readable medium storing instructions which, when executed by a computer, cause the computer to perform an image processing method comprising:

segmenting an image into one or more regions of data from the image;  
generating the one or more segmented regions into components;  
encoding the components into code data using different compression methods; and  
combining the code data into a codestream.

34. (Currently Amended) The ~~article of manufacture~~ computer-readable medium as claimed in claim 33, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encoding the respective tiles into code data.

35. (Currently Amended) The ~~article of manufacture~~ computer-readable medium as claimed in claim 33, wherein segmenting an image into one or more regions comprises segmenting the image into at least one of a text region, a drawing region, a photograph region, and a background region.

36. (Currently Amended) The ~~article of manufacture~~ computer-readable medium as claimed in claim 33, wherein the image processing method further comprises:

storing the codestream;

decoding the stored codestream into an image; and  
forming the image generated as a results of decoding the stored codestream.

37. (Currently Amended) ~~An article of manufacture having one or more recordable~~  
~~medium~~ computer-readable medium storing instructions which, when executed by a computer,  
cause the computer to perform an image processing method comprising:

segmenting an image into one or more regions of data from the image;

generating the one or more regions into components;

converting the respective components from a first data format to a second data format,  
where the first and second data formats are different into different data formats;

encoding the components into code data using a same compression method; and

combining the code data into a codestream.

38. (Currently Amended) ~~The article of manufacture~~ computer-readable medium as  
claimed in claim 37, wherein encoding the components into code data comprises dividing the  
image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

39. (Currently Amended) ~~The article of manufacture~~ computer-readable medium as  
claimed in claim 37, wherein segmenting an image into one or more regions comprises  
segmenting the image into a least one of a text region, a drawing region, a photograph region,  
and a background region.

40. (Currently Amended) ~~The article of manufacture~~ computer-readable medium as  
claimed in claim 37, wherein the image processing method further comprises:

storing the codestream;  
decoding the stored codestream into an image; and  
forming the image that results from decoding the stored codestream.

41. (New) An image processing apparatus, comprising:

a segmenting unit to segment an image into one or more regions of data from the image;

a generating unit to make the one or more regions segmented by the segmenting unit into components;

an encoding unit to encode the components made by the generating unit into code data using an encoding method based on a component type of each of said components; and

a combining unit to combine the code data encoded by the encoding unit into a codestream